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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/783,852	02/14/2001	Gurbir Singh	42390P11016	2643

8791 7590 08/04/2004

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12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER

MASON, DONNA K

ART UNIT	PAPER NUMBER
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DATE MAILED: 08/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/783,852

Applicant(s)

SINGH ET AL.

Examiner

Donna K. Mason

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-32, 40-42, 49-54 and 59-62 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7, 33-39, 43, 47, 55 and 56 is/are rejected.
- 7) ☒ Claim(s) 3-6, 8-18, 44-46, 48, 57 and 58 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date January 26, 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Terminal Disclaimer

1. The terminal disclaimer filed on February 9, 2004 disclaiming the terminal portion of any patent granted on this application, which would extend beyond the expiration date of any patent granted on Application No. 09/784,244 has been reviewed and is accepted. The terminal disclaimer has been recorded.
2. Applicant's remarks filed February 9, 2004 indicate that more than one terminal disclaimer was filed to overcome the multiple double patenting rejections. However, a terminal disclaimer was not filed to overcome the provisional rejection in view of conflicting Application No. 09/783,784 or the actual rejection view of U.S. Patent No. 6,609,171. Therefore, claims 1, 2, 7, 33-39, 43, 47, 55, and 56 stand rejected.

Drawings

3. The drawings were received on February 9, 2004. These drawings are not acceptable because there is no indication in the top margin as "Replacement Sheet".

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

Replacement Drawing Sheets

Drawing changes must be made by presenting replacement figures which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments, or remarks, section of the amendment. Any replacement drawing sheet must be identified in the top margin as "Replacement Sheet" and include all of the figures appearing on the immediate prior version of the sheet, even though only one figure may be amended. The figure or figure number of the amended drawing(s) must not be labeled as "amended." If the changes to the drawing figure(s) are not accepted by the examiner,

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applicant will be notified of any required corrective action in the next Office action. No further drawing submission will be required, unless applicant is notified.

Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin.

Annotated Drawing Sheets

A marked-up copy of any amended drawing figure, including annotations indicating the changes made, may be submitted or required by the examiner. The annotated drawing sheets must be clearly labeled as "Annotated Marked-up Drawings" and accompany the replacement sheets.

Timing of Corrections

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.85(a). Failure to take corrective action within the set period will result in ABANDONMENT of the application.

If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the "Notice of Allowability." Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability.

Claim Objections

4. Claim 11 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim (i.e., see multiple dependent claim 9). See MPEP § 608.01(n). Accordingly, claim 11 and its dependent claims 12-14 have not been further treated on the merits.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

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unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1, 2, 7, and 39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 55-57 of U.S. Patent No. 6,609,171 to Singh, et al. Although the conflicting claims are not identical, they are not patentably distinct from each other because the examined claims 1, 2, and 7 are generic to the bus agent of claims 55, 56, and 57, respectively, of U.S. Patent No. 6,609,171, and claims 55, 56, and 57 of U.S. Patent No. 6,609,171 fall entirely within the scope of claims 1, 2, and 7, respectively. Also, claim 39 of the examined application is generic to the bus agent of claim 55, and claim 55 falls entirely within the scope of claim 39. More specifically, because a control interface circuit is a species of the generic category defined by a "control interface," the bus agent of claims 1, 2, 7, and 39, which recite a "control interface, is anticipated by claims 55, 56, and 57 of U.S. Patent No. 6,609,171.

7. Claims 33-38 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 58-63, respectively, of U.S.

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Patent No. 6,609,171. Although the conflicting claims are not identical, they are not patentably distinct from each other because the examined claims 33-38 are generic to the bus agent of claims 58-63, respectively of U.S. Patent No. 6,609,171, and claims 58-63 of U.S. Patent No. 6,609,171 fall entirely within the scope of claims 33-38, respectively. More specifically, because the bus agent of claims 58-63 is a species of the generic category defined by the bus agent of claims 33-38, where claim 33 recites "approximately" one clock cycle and having a transition at "substantially" a first, second, third, and fourth data element, the bus agent of claims 33-38 is anticipated by claims 58-63 of U.S. Patent No. 6,609,171.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. Claim 43 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 21 of copending Application No. 09/783,784. Although the conflicting claims are not identical, they are not patentably distinct from each other because the examined claim 43 is generic to the bus agent of Application No. 09/783,784, and claim 21 falls entirely within the scope of claim 43. More specifically, because the bus agent of claim 21, reciting a bus controller logic, is a species of the generic category defined by the bus agent of claim 43, reciting a "bus controller," the bus agent of claim 43 is anticipated by claim 21 of Application No. 09/783,784.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

9. Claim 47 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 22 of copending Application No. 09/783,784. Although the conflicting claims are not identical, they are not patentably distinct from each other because the examined claim 47 is generic to the bus agent of Application No. 09/783,784, and claim 22 falls entirely within the scope of claim 47. More specifically, because the bus agent of claim 22, reciting a bus controller logic, is a species of the generic category defined by the bus agent of claim 47, reciting a "bus controller," the bus agent of claim 47 is anticipated by claim 22 of Application No. 09/783,784.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

10. Claims 55 and 56 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 55 and 57 of U.S. Patent No. 6,609,171 to Singh, et al. in view of U.S. Patent No. 6,487,621 to MacLaren.

U.S. Patent No. 6,609,171 discloses a control interface to drive a control signal at a clock frequency, an address bus interface to drive address elements at twice the clock frequency, the address bus interface driving a centered address strobe transition for each address element, and a data bus interface to drive data elements at four times the

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clock frequency, the data bus interface to drive a centered data strobe transition for each data element. U.S. Patent No. 6,609,171 also discloses an address bus interface circuit driving first and second address strobes, and four consecutive data elements, as claimed. U.S. Patent No. 6,609,171 does not expressly disclose an article including a machine-readable medium that carries data, as claimed.

MacLaren discloses an article including a machine-readable medium that carries data, as claimed (see Fig. 3, item 50). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the article of MacLaren with the bus agent of U.S. Patent No. 6,609,171. The suggestion or motivation for doing so would have been to provide a separate medium for storage of the system's instructions (see column 6, lines 56-67 to column 7, lines 1-11).

Therefore, it would have been obvious to combine MacLaren with U.S. Patent No. 6,609,171 to obtain the invention as specified in claims 55 and 56.

Allowable Subject Matter

11. Claims 19-32, 40-42, 49-54, and 59-62 are allowed.

12. Claims 3-6, 8-10, 15-18, 44-46, 48, 57, and 58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: The primary reason for the allowability of the claims is the inclusion of the

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limitations directed to driving address bus elements at twice the clock frequency and driving the data bus elements at four times the clock frequency. The prior art references are directed to a double-pumped bus architecture for the transmission of data elements, while the claims in the present application are directed to a quad-pumped bus architecture. The features of driving the address bus elements at twice the clock frequency and driving the data elements at four times the clock frequency are not found in the prior art references.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

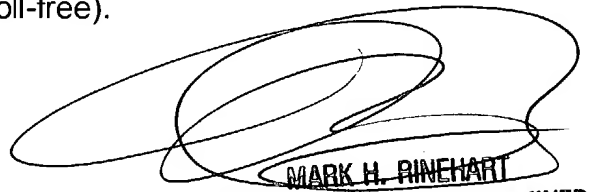
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donna K. Mason whose telephone number is (703) 305-1887. The examiner can normally be reached on Monday - Friday, 8:30am - 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H. Rinehart can be reached on (703) 305-4815. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DKM



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